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# Requirements for Gas-Freeing and Repair of USCGC Owned SAFE Boats

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## Policy and Background

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## **Background**

### ***Two Coast Guards***

Actually, there are *many* Coast Guards, but for the purposes of this discussion, consider for a moment the Cutter Community, and the Boat Community.

The Cutter Community operates vessels far from shore, perhaps in war zones, with embarked personnel trained in Damage Control, Firefighting, Welding, and Gas Free Engineering. They are able to perform hot work by themselves, as they're all "blue suiters" doing the work. Their Homeports tend to be relatively close to metropolitan areas with a broad array of services readily available. There is a well-developed logistics structure to support maintenance and repair, including shoreside intermediate facilities, and regional engineering support. Work performed ashore is often in relatively controlled environments (shipyards), governed by Coast Guard internal directives, Navy directives, and state and federal safety regulations, as befits the industrial setting.

The Boat Community in contrast rarely goes "off soundings", is remotely located, with commercial repair resources thinner on the ground, and less sophisticated and capable where they are present. The Boat Community has, until very recently, been "below the radar" of the regional support structure. While most Group EOs are engineering Warrant Officers who have had some GFE training, they may not be current, and there hasn't been any established training for them in Gas Free Engineering, even though they often have welders, either Enlisted or Civilian, available in the Group/Sector support structure.

Up until recently, these differences haven't been much of a problem. The Coast Guard had transitioned long ago to diesel power for most of its boats, and the gasoline powered units that remained tended to be small, open, and with portable tanks.

### ***Things that go Boom***

The number of incidents related to fuel and fumes started to creep up as soon as outboard powered RHIs were introduced to the fleet. Gasoline spills might not be dealt with properly, and when the Boatswain used a propane torch to try and dry a surface prior to bonding to it...etc.

The sudden influx of big outboard powered hulls into the small boat fleet after 9/11/2001, into a community with limited institutional support around Gas Free Engineering, put us at risk. Many of these craft had fuel tanks permanently installed below the working deck, and also carried substantial amounts of fuel. In the last 4 years, there have been at least 3 incidents, luckily without serious injury, of boats literally being blown up due to insufficient attention prior to initiating Hot Work.

Clearly, something needed to be done.

## **Policy**

### ***Who makes policy?***

Policy that covers the entire Coast Guard must come from Coast Guard Headquarters. Policy already exists for BOTH cutters AND boats. However, it's confusing to many people at boat

units, because it heavily relies on Naval Ships Technical Manual Chapter 074 vol 3, which is tailored toward ships afloat. Coast Guard Headquarters is currently revising our policy directive to make clear the roles and responsibilities for boats, since the organizational and support structure is different than cutters. But the wheels of policy making grind slowly – the revised policy is not yet promulgated .

To gain the clarity the fleet needs, prior to the issuance of the upcoming revised *policy*, Maintenance and Logistics Command Pacific (MLCP) has developed a set of *procedures*, and required their use for units in its Area of Responsibility. The second revision of these procedures (which were in their turn developed from the work of Naval Engineering Support Unit Cleveland, and the very valuable input of Gerry Bernardi, a member of this group) is currently being refined, including input from the Response Boat – Small Project Resident Office and Maintenance and Logistics Command Atlantic, as well as our own Health and Safety Division.

The MLCP procedures DO NOT have the “force of law” the upcoming COMDTINST will have, but they DO represent the Best Practice. It would be imprudent for any United States Coast Guard unit, or any contractor hired by such a unit, to deviate from them.

### ***What will proposed policy direct?***

In short, follow 29 CFR 1915. Which you are all intimately familiar with...

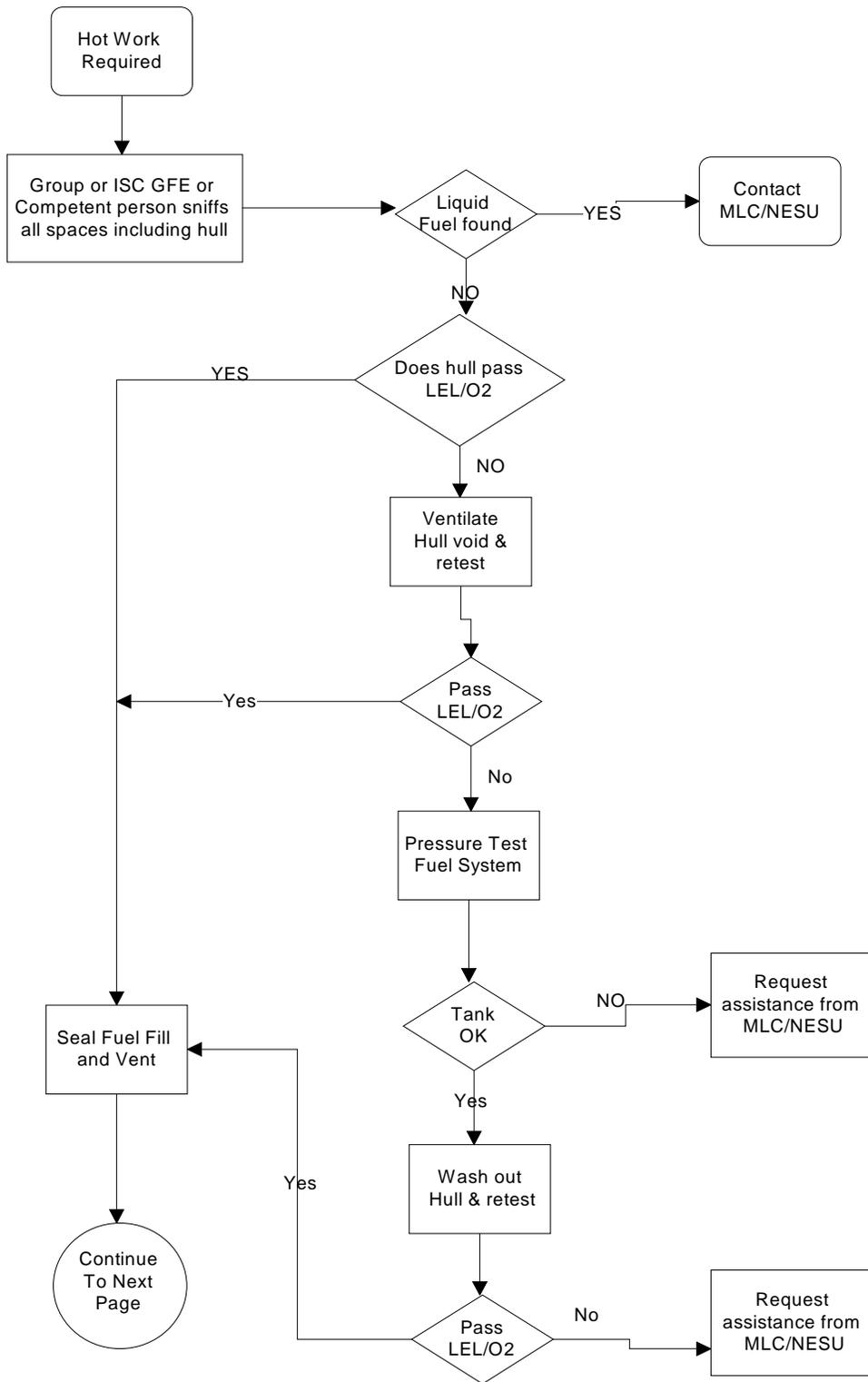
The medium version of **What** is contained in the flow charts and diagrams of the next few pages. The gist of it is, we’ve defined a zone in which a Marine Chemist **MUST** be employed to **PERSONALLY** conduct an inerting of the central hull prior to undertaking hot work. Outside that zone, with the proper preparation, a Coast Guard Gas-Free Engineer (defined by Navy instructions), or a contractor’s Competent Person (defined by 29 CFR 1915) **MAY** certify a hull Gas Free.

The long version is too long for this forum, but it should be part of the Statement of Work by which the Marine Chemist will be hired to perform the requirements.

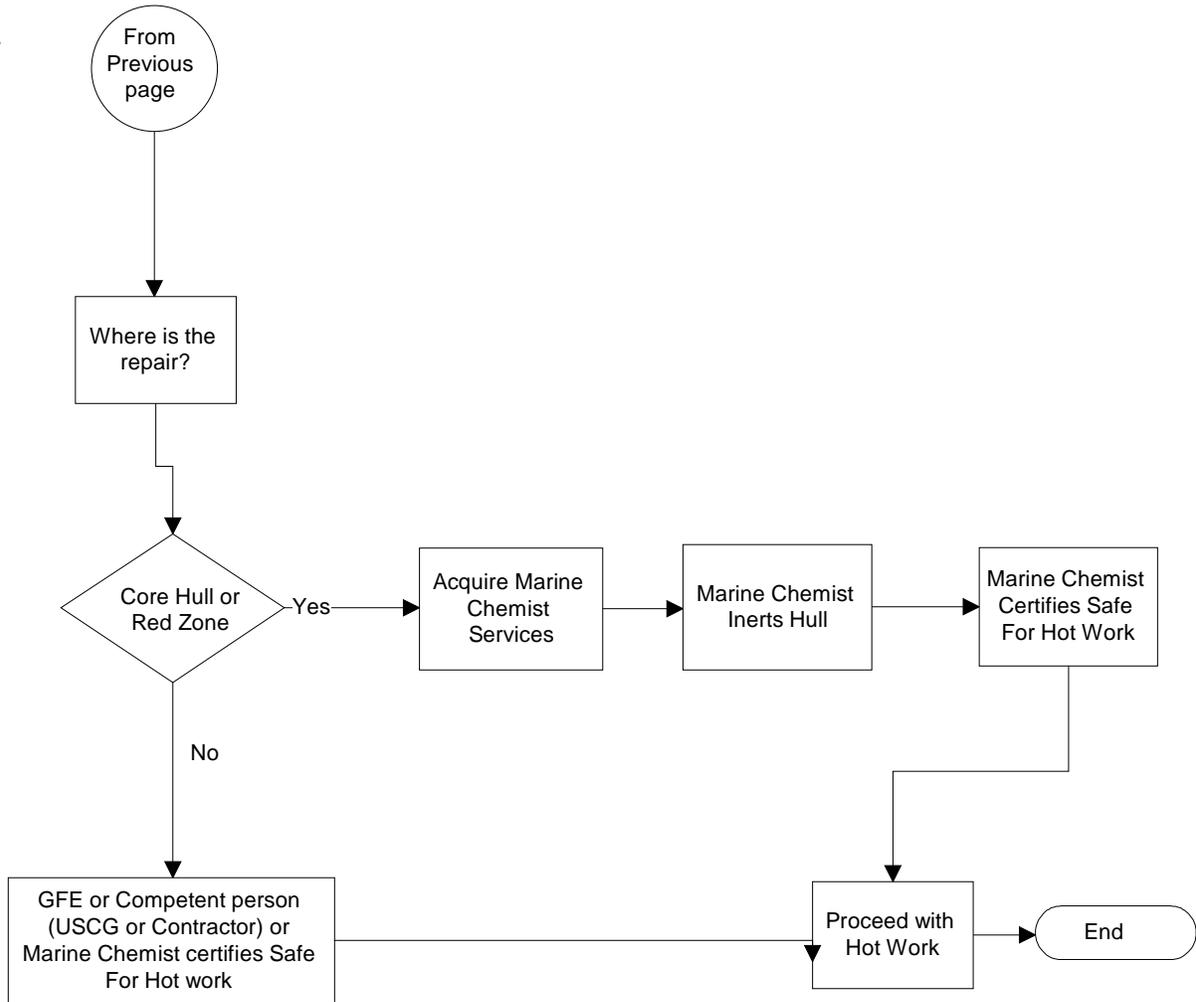
It’s worth noting that nothing in the present policy governs operations **WITHIN** a Manufacturer’s own facility. The policy is aimed at work being undertaken at Coast Guard facilities, or at repair facilities with which the Coast Guard may do business, post-warranty.

### Flow Chart for Repair of RB-HS and RB-S SAFE Boats

Not all hulls will require all the items of this repair procedure. The following flow charts show the decision process for choosing the proper items to execute, in the proper order, given the circumstances of each boat.



Flow Chart for Repair of RB-HS and RB-S SAFE Boats (Continued)



# Hot Work Zones for SAFE Response Boats

